

Court File No. T-1301-09

## FEDERAL COURT

BETWEEN:

Nell Toussaint

Applicant

and

Attorney General of Canada and Minister of Health

Respondents

APPLICATION UNDER section 18.1 of the *Federal Courts Act*, R.S.C. 1985, c. F-7

## Affidavit of Stephen W. Hwang

I, Stephen W. Hwang, of the City of Toronto, Province of Ontario, physician and professor, make oath and say:

1. I am a physician duly licensed to practice medicine in the Province of Ontario. My clinical specialty is internal medicine. I hold the degrees of MPH (epidemiology), Harvard School of Public Health; MD, Johns Hopkins University; and BA (biochemistry), Harvard University. My primary appointment is in the Department of Medicine, with cross-appointments in the departments of Public Health Sciences and Health Policy, Management and Evaluation at the University of Toronto.
2. I have the following affiliations:
  - Scientist in the Keenan Research Centre of the Li Ka Shing Knowledge Institute of St. Michael's Hospital

- **Research Scientist, Centre for Research on Inner City Health, St. Michael's Hospital**
  - **Staff Physician, General Internal Medicine, St. Michael's Hospital**
  - **Director, Division of General Internal Medicine, University of Toronto**
  - **Associate Professor, Public Health Sciences, University of Toronto**
  - **Associate Professor, Health Policy, Management and Evaluation, University of Toronto**
  - **Associate Professor, Faculty of Medicine, University of Toronto**
3. **My research interests lie in the study of homelessness and housing, health services research, interdisciplinary research, access to care, socioeconomic status, inner city health and urban health.**
4. **Attached hereto and marked as exhibit "A" is a selected list of my publications.**
5. **My professional memberships and awards include:**
- **CIHR New Investigator Award, 2003-2008**
  - **Canadian Society of Internal Medicine Young Investigator Award**
  - **Fellow, American College of Physicians**
  - **Fellow, Royal College of Physicians of Canada**
  - **Member, International Society for Urban Health**
  - **Member, Canadian Society of Internal Medicine**
  - **Member, Society of General Internal Medicine**


- Peer Reviewer: Canadian Institutes of Health Research (CIHR); Ontario HIV Treatment Network (OHTN); Canadian Foundation for AIDS Research (CANFAR); The Physicians' Services Incorporated Foundation (PSI); Michael Smith Health Research Foundation

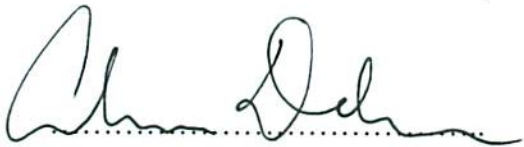
6. Attached hereto and marked as exhibit "B" is my report dated August 24, 2009, which I believe to be true and accurate.

Sworn before me at the City of

Toronto, in the Province of

Ontario on August 25, 2009

  
.....  
Stephen W. Hwang

  
.....

Andrew C. Dekany

A commissioner for oaths

## Selected Publications by Stephen W. Hwang, M.D.

1. The health of homeless immigrants.

Chiu S, Redelmeier DA, Tolomiczenko G, Kiss A, Hwang SW.

J Epidemiol Community Health. 2009 Aug 3. [Epub ahead of print]

PMID: 19654122 [PubMed - as supplied by publisher]

2. Multidimensional Social Support and the Health of Homeless Individuals.

Hwang SW, Kirst MJ, Chiu S, Tolomiczenko G, Kiss A, Cowan L, Levinson W.

J Urban Health. 2009 Jul 23. [Epub ahead of print]

PMID: 19629703 [PubMed - as supplied by publisher]

3. Infectious disease exposures and contact tracing in homeless shelters.

Hwang SW, Kiss A, Ho MM, Leung CS, Gundlapalli AV.

J Health Care Poor Underserved. 2008 Nov;19(4):1163-7.

PMID: 19029743 [PubMed - indexed for MEDLINE]

4. Group A streptococcal carriage among residents of an urban homeless shelter.

Bargh GJ, Hoch JS, Hwang SW, Speechley M, Willey BM, McGeer A.

Can J Infect Dis Med Microbiol. 2007 Sep;18(5):316-7. No abstract available.

PMID: 18923730 [PubMed - in process]

5. The effect of traumatic brain injury on the health of homeless people.

Hwang SW, Colantonio A, Chiu S, Tolomiczenko G, Kiss A, Cowan L, Redelmeier DA, Levinson W.

CMAJ. 2008 Oct 7;179(8):779-84.

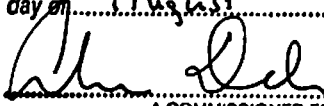
PMID: 18838453 [PubMed - indexed for MEDLINE]

6. Homelessness and the response to emerging infectious disease outbreaks: lessons from SARS.

Leung CS, Ho MM, Kiss A, Gundlapalli AV, Hwang SW.

J Urban Health. 2008 May;85(3):402-10. Epub 2008 Mar 18.

PMID: 18347991 [PubMed - indexed for MEDLINE]

This is Exhibit "A" referred to in the  
affidavit of Stephen W. Hwang  
sworn before me, this 25<sup>th</sup>  
day of August 18, 2009  
  
A COMMISSIONER FOR TAKING AFFIDAVITS  
Andrew C. DeKany<sup>1</sup>

7. The effects of housing status on health-related outcomes in people living with HIV: a systematic review of the literature.

Leaver CA, Bargh G, Dunn JR, Hwang SW.

AIDS Behav. 2007 Nov;11(6 Suppl):85-100. Epub 2007 Aug 8. Review.

PMID: 17682940 [PubMed - indexed for MEDLINE]

8. Population mortality during the outbreak of Severe Acute Respiratory Syndrome in Toronto.

Hwang SW, Cheung AM, Moineddin R, Bell CM.

BMC Public Health. 2007 May 29;7:93.

PMID: 17535440 [PubMed - indexed for MEDLINE]

9. Homeless people's perceptions of welcomeness and unwelcomeness in healthcare encounters.

Wen CK, Hudak PL, Hwang SW.

J Gen Intern Med. 2007 Jul;22(7):1011-7. Epub 2007 Apr 6.

PMID: 17415619 [PubMed - indexed for MEDLINE]

10. Housing as a socio-economic determinant of health: findings of a national needs, gaps and opportunities assessment.

Dunn JR, Hayes MV, Hulchanski JD, Hwang SW, Potvin L.

Can J Public Health. 2006 Sep-Oct;97 Suppl 3:S11-5, S12-7. English, French.

PMID: 17357542 [PubMed - indexed for MEDLINE]

11. After insurance issues are settled.

Hwang SW.

Ann Intern Med. 2006 Jul 18;145(2):150-1. No abstract available.

PMID: 16847298 [PubMed - indexed for MEDLINE]

12. Dyspepsia in homeless adults.

Hwang SW, Wong SY, Bargh GJ.

J Clin Gastroenterol. 2006 May-Jun;40(5):416-20.

PMID: 16721223 [PubMed - indexed for MEDLINE]

13. Homelessness and harm reduction.

Hwang SW.

CMAJ. 2006 Jan 3;174(1):50-1. No abstract available.

PMID: 16389237 [PubMed - indexed for MEDLINE]

14. Fifteen per cent of people treated for mental health disorders are homeless.

Hwang SW.

Evid Based Ment Health. 2005 Nov;8(4):118. No abstract available.

PMID: 16246894 [PubMed]

15. Interventions to improve the health of the homeless: a systematic review.

Hwang SW, Tolomiczenko G, Kouyoumdjian FG, Garner RE.

Am J Prev Med. 2005 Nov;29(4):311-9. Review.

PMID: 16242595 [PubMed - indexed for MEDLINE]

16. A community-based intervention to increase screening mammography among disadvantaged women at an inner-city drop-in center.

Heyding RK, Cheung AM, Mocarski EJ, Moineddin R, Hwang SW.

Women Health. 2005;41(1):21-31.

PMID: 16048866 [PubMed - indexed for MEDLINE]

17. The effect of illustrations on patient comprehension of medication instruction labels.

Hwang SW, Tram CQ, Knarr N.

BMC Fam Pract. 2005 Jun 16;6(1):26.

PMID: 15960849 [PubMed - indexed for MEDLINE]

18. Risk factors for cardiovascular disease in homeless adults.

Lee TC, Hanlon JG, Ben-David J, Booth GL, Cantor WJ, Connelly PW, Hwang SW.

Circulation. 2005 May 24;111(20):2629-35. Epub 2005 May 16.

PMID: 15897342 [PubMed - indexed for MEDLINE]

19. Effects of dietary folate on the development and progression of mammary tumors in rats.

Kotsopoulos J, Medline A, Renlund R, Sohn KJ, Martin R, Hwang SW, Lu S, Archer MC, Kim YI.

Carcinogenesis. 2005 Sep;26(9):1603-12. Epub 2005 May 11.  
PMID: 15888495 [PubMed - indexed for MEDLINE]

20. Bed bug infestations in an urban environment.

Hwang SW, Svoboda TJ, De Jong IJ, Kabasele KJ, Gogosis E.  
Emerg Infect Dis. 2005 Apr;11(4):533-8.

21. Age- and sex-specific income gradients in alcohol-related hospitalization rates in an urban area.

Hwang SW, Agha MM, Creatore MI, Glazier RH.  
Ann Epidemiol. 2005 Jan;15(1):56-63.  
PMID: 15571994 [PubMed - indexed for MEDLINE]

22. Homeless people's trust and interactions with police and paramedics.

Zakrisson TL, Hamel PA, Hwang SW.  
J Urban Health. 2004 Dec;81(4):596-605.  
PMID: 15466841 [PubMed - indexed for MEDLINE]

23. Risk of death among homeless women: a cohort study and review of the literature.

Cheung AM, Hwang SW.  
CMAJ. 2004 Apr 13;170(8):1243-7. Review.  
PMID: 15078846 [PubMed - indexed for MEDLINE]

24. The relationship between housing conditions and health status of rooming house residents in Toronto.

Hwang SW, Martin RE, Tolomiczenko GS, Hulchanski JD.  
Can J Public Health. 2003 Nov-Dec;94(6):436-40.  
PMID: 14700243 [PubMed - indexed for MEDLINE]

25. Effects of dietary folate on ulcerative colitis-associated colorectal carcinogenesis in the interleukin 2- and beta(2)-microglobulin-deficient mice.

Carrier J, Medline A, Sohn KJ, Choi M, Martin R, Hwang SW, Kim YI.  
Cancer Epidemiol Biomarkers Prev. 2003 Nov;12(11 Pt 1):1262-7.  
PMID: 14652292 [PubMed - indexed for MEDLINE]

26. Dietary folate deficiency suppresses N-methyl-N-nitrosourea-induced mammary tumorigenesis in rats.

Kotsopoulos J, Sohn KJ, Martin R, Choi M, Renlund R, McKerlie C, Hwang SW, Medline A, Kim YI. Carcinogenesis. 2003 May;24(5):937-44.

PMID: 12771039 [PubMed - indexed for MEDLINE]

27. What happens to patients who leave hospital against medical advice?

Hwang SW, Li J, Gupta R, Chien V, Martin RE.

CMAJ. 2003 Feb 18;168(4):417-20.

PMID: 12591781 [PubMed - indexed for MEDLINE]

28. Methodological, practical, and ethical challenges to inner-city health research.

Bayoumi AM, Hwang SW.

J Urban Health. 2002 Dec;79(4 Suppl 1):S35-42.

PMID: 12473697 [PubMed - indexed for MEDLINE]

29. Is homelessness hazardous to your health? Obstacles to the demonstration of a causal relationship.

Hwang SW.

Can J Public Health. 2002 Nov-Dec;93(6):407-10.

PMID: 12448860 [PubMed - indexed for MEDLINE]

30. Homelessness and health.

Hwang SW.

CMAJ. 2001 Jan 23;164(2):229-33.

PMID: 11332321 [PubMed - indexed for MEDLINE]

31. Health care utilization among homeless adults prior to death.

Hwang SW, O'Connell JJ, Lebow JM, Bierer MF, Orav EJ, Brennan TA.

J Health Care Poor Underserved. 2001 Feb;12(1):50-8.

PMID: 11217228 [PubMed - indexed for MEDLINE]



32. Barriers to appropriate diabetes management among homeless people in Toronto.

Hwang SW, Bugeja AL.

CMAJ. 2000 Jul 25;163(2):161-5.

PMID: 10934977 [PubMed - indexed for MEDLINE]

33. Mortality among men using homeless shelters in Toronto, Ontario.

Hwang SW.

JAMA. 2000 Apr 26;283(16):2152-7.

PMID: 10791509 [PubMed - indexed for MEDLINE]

34. Drug access among homeless men in Toronto.

Hwang SW, Gottlieb JL.

CMAJ. 1999 Apr 6;160(7):1021. No abstract available.

PMID: 10207341 [PubMed - indexed for MEDLINE]

35. Risk factors for death in homeless adults in Boston.

Hwang SW, Lebow JM, Bierer MF, O'Connell JJ, Orav EJ, Brennan TA.

Arch Intern Med. 1998 Jul 13;158(13):1454-60.

PMID: 9665356 [PubMed - indexed for MEDLINE]

**Stephen W. Hwang, MD, MPH, FRCPC**  
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 Research Scientist, Centre for Research on Inner City Health,  
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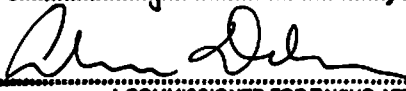


Leading with Innovation  
 Serving with Compassion

**ST. MICHAEL'S HOSPITAL**

*A teaching hospital affiliated with the University of Toronto*

This is Exhibit 13 referred to in the  
 affidavit of Stephen W. Hwang  
 sworn before me, this 25<sup>th</sup>  
 day of August 18, 2009

  
 A COMMISSIONER FOR TAKING AFFIDAVITS  
 Andrew C. Dekany

August 24, 2009

Re: Nell Toussaint  
 DOB: July 14, 1969

This report summarizes my opinion regarding the health of Ms. Nell Toussaint. This report is based on my interview with and examination of Ms. Toussaint, which I conducted on August 20, 2009, and a thorough review of her medical records.

**1. Health Conditions**

- a. Ms. Toussaint is a 40 year-old woman with a number of serious health conditions. She has had diabetes for the last 10 years. However, due to her lack of health insurance, this condition went essentially untreated until 1 year ago, when she was able to obtain primary care at the York Community Services Health Centre. She has had diffuse body pains for the last 2 years, and the diagnosis of fibromyalgia has been suggested.
- b. In November 2008, she underwent myomectomy at Humber River Regional Hospital (surgery to remove uterine fibroids, which were causing severe pain and vaginal bleeding). She continues to have persistent vaginal bleeding from her remaining fibroids. Three weeks after her operation, she was admitted to St. Michael's Hospital with severe, uncontrolled hypertension that had not been previously diagnosed or treated. With the initiation of blood pressure medications in hospital, her hypertension became well-controlled. During this admission, she was also diagnosed with nephrotic syndrome (a serious kidney disease in which there is persistent, abnormal loss of large amounts of protein in the urine). Her nephrotic syndrome is very likely due to her longstanding diabetes. The main symptom that Ms. Toussaint experiences due to nephrotic syndrome is chronic swelling of both legs.
- c. On March 3, 2009, Ms. Toussaint was admitted to St. Michael's Hospital with a pulmonary embolism (a potentially life-threatening condition in which a blood clot originating in the leg veins breaks off and lodges in the blood vessels in the lungs). Her pulmonary embolism is very likely the result of a hypercoagulable state (an increased tendency to form blood clots) that is a consequence of her nephrotic syndrome. Ms. Toussaint has been treated with long-term anti-coagulation (injected medications followed by oral medications to reduce the tendency of the blood to clot). During this hospitalization, Ms. Toussaint's diabetes and hypertension were found to be very poorly controlled due to her inability to afford her prescribed medications.

- d. Over the last 5 months since this hospitalization, Ms. Toussaint has been seen by specialists (nephrologist, endocrinologist, and gastroenterologist) for her various medical conditions. On August 20 (the day on which I examined Ms. Toussaint), she was seen by her nephrologist, sent to the emergency department, and readmitted to the hospital for a possible recurrent pulmonary embolism.
  - e. Ms. Toussaint takes a number of medications which she requires on a long-term basis and which are critical to maintaining her health. These medications include metformin and two types of insulin (to control her diabetes), rosuvastatin (to lower her cholesterol), coumadin (an anti-coagulant), and irbesartan, aliskiren, and hydrochlorothizide (to control her blood pressure and to reduce the risk of worsening kidney disease).
2. **Current Treatment.** Ms. Toussaint is currently receiving treatment that is medically necessary standard care for her conditions.
  3. **Functional Impairment.** Due to her illnesses, Ms. Toussaint suffers from a number of disabilities and functional impairments, including chronic leg, hip, and body pain; chest pain; shortness of breath; leg swelling; and difficulty walking. As a result of these conditions, she walks with the assistance of a cane. Continued access to medical care is essential for her to maintain her health, and to allow her to participate with dignity in society.
  4. **Health Risks in the Absence of Appropriate Health Care.** Ms. Toussaint would be at extremely high risk of suffering severe health consequences if she does not receive health care in a timely fashion. As noted above, she has already suffered from serious and to some degree irreversible health consequences due to lack of access to appropriate care, which resulted in inadequately treated, uncontrolled diabetes and hypertension. As documented in her medical records, her inability to afford medications in the past has also contributed to the poor control of her diabetes and hypertension. If she were to not receive timely and appropriate health care and medications in the future, she would be at very high risk of immediate death (due to recurrent blood clots and pulmonary embolism), severe medium-term complications (such as kidney failure and a subsequent requirement for dialysis), and other long-term complications of poorly-controlled diabetes and hypertension (such as blindness, foot ulcers, leg amputation, heart attack, and stroke).
  5. **Current Access to Care.**
    - a. Ms. Toussaint is currently accessing primary medical care through the York Community Services Health Centre. This Health Centre is able to provide free primary care for her despite the fact that she does not have health insurance.
    - b. Ms. Toussaint's medications are now covered through Ontario Drug Benefits. This has had an enormous beneficial impact on her health and indeed on reducing her risk of death and severe adverse health consequences. As noted above, if Ms. Toussaint were to lose her Ontario Drug Benefits, she would be unable to afford her medications, and her life and health would be at greatly increased risk.
    - c. Ms. Toussaint does not have insurance coverage for laboratory tests, specialist care, or hospital care, and her access to these services is essentially on a pro bono basis. Her medical records document that this situation compromised her medical care on February 28, 2009, when she was unable to obtain an ultrasound to determine if she had blood clots in her legs, because she was unable to pay for this test. She was admitted to the hospital

3 days later, after blood clots in her legs traveled to her lungs and caused a pulmonary embolism as detailed above.

- d. Ms. Toussaint is dependent on the ability of York Community Services Health Centre to support her primary health care needs and the willingness of specialist physicians to provide her with uncompensated care. As a result, her access to health care at the present time cannot be considered entirely secure, and any reduction in her current level of access to health care would place her health at increased risk of severe impairment.
6. **General Outlook.** If Ms. Toussaint receives timely and appropriate health care, there is a reasonable expectation that she would be able to resume work of some type, enjoy increased mobility, and be free of severe pain.
7. **Health Care Bills.** Ms. Toussaint continues to receive bills for certain health care services that she has received in the past, including bills from various specialists and from the hospital where she underwent surgery in 2008. Given her current financial situation, she is completely unable to pay these bills. Ms. Toussaint experiences a certain degree of anxiety due to these unpaid bills, and she has a very reasonable anxiety that any health care that she receives in the future may result in additional bills that she will be unable to pay.

This report reflects my professional opinion on the health situation of Ms. Toussaint.

Sincerely yours,



Stephen Hwang, MD, MPH, FRCPC